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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,595	12/28/2001	Ronald G. McInay	PHYS117996	8806

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EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2827

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/033,595

Applicant(s)

MCILNAY ET AL.

Examiner

Tuan T Dinh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9,11-16,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 4,10 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-9, 11-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitano et al. (U. S. Patent 5,295,045) in view of Eland (U. S. Patent 6,224,405).

As to claims 1, 5-6, 8, 11, 14, Kitano discloses a circuit package as shown in figures 1-13, comprising:

first and second circuit boards (1a, 1b, column 4, line 43) positioned in first and second planes,

at least two electrically conductive leads (4a-1, 4b-1, column 4, lines 53-54) extending from at least one external surface of the circuit package, the conductive leads being adapted to mounted the circuit package on the external surface in an upright position; and

a housing (6, column 4, lines 55-56), made from injection plastic, formed between the first and second circuit boards, wherein the housing is formed to surround one side of the each circuit board, thereby allowing one surface of each circuit board to be exposed to the exterior surface of the circuit package.

Kitano does not disclose at least one brace positioned between the first and second circuit boards, the brace formed to affix the first circuit board to the second circuit board, wherein the brace is operable to function as a flexible spacer between the first and second circuit boards,

Eland teaches at least one brace (40) positioned between the first and second circuit boards (48), the brace formed to affix the first circuit board to the second circuit board, wherein the brace is operable to function as a flexible spacer between the first and second circuit boards disclosed in figures 1-8.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have teaching's Eland to employ the package of Kitano in order to provide a holding mechanism between boards and prevent electrical shock.

As to claims 2, 12, Kitano discloses in figure 13 the housing forms a bottom surface between at least two electrically conductive leads (4a, 4b) of the circuit package, wherein the bottom surface of the circuit package comprises a cavity formed therein.

As to claims 3, 13, Kitano discloses, in figure 13, the first and second circuit boards (1a, 1b) are made of a single-sided direct bonded copper substrate.

As to claim 7, Kitano discloses the package as shown in figures 1-13 an external surface of the housing forms a substantially flush surface with the exposed surfaces of each circuit board.

As to claims 9, 16, Eland shows components (58,60) capable of being as an H-bridge circuit mounted on the first and second circuit boards (48).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have H-bridge circuit component as taught by Eland to employ the package of Kitano in order to provide switching circuits for the circuit board.

Regarding claims 18-19, the method steps are necessitated as it is disclosed by Kitano in view of Eland.

Allowable Subject Matter

3. Claims 4, 10, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsui and Yagi disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

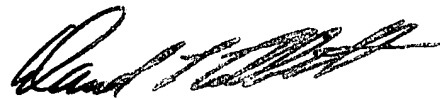
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD

February 23, 2003



DAVID L. TALBOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800